KIRYUSHINA, M.T.

Latest tectonic movements in the Anabar crystalline shield and
adjacent areas. Trudy NIIGA 96:135-147 '59.   (MIRA 13:5)
(Anabar Shield--Geology, Structural)

VORONOV, P.S.; KIRYUSHINA, M.T.; POL'KIN, Ya.I., STRELKOV, S.A.

Latest tectonic movements in the Arctic portion of the Lena-
Yenisey region. Trudy NIIGA 105:92-115 '59.   (MIRA 13:5)
    (Russia, Northern--Geology, Structural)

STRELKOV, S.A.; DIBNER, V.D.; ZAGORSKAYA, N.G.; SOKOLOV, V.N.; YEGOROVA,
    I.S.; POL'KIN, Ya.I.; KIRYUSHINA, M.T.; PUMINOV, A.P.; YASHINA,
    Z.I .; SAKS, V.N., red.: NIKITINA, V.N., red.izd-va; GUROVA, O.A.,
    tekhn.red.

[Quaternary sediments in the Soviet Arctic] Chetvertichnye
otlozheniia Sovetskoi Arktiki. Moskva, Gos. nauchno-tekhn.
izd-vo lit-ry po geol.i okhr.nedr, 1959. 231 p. (Leningrad.
Nauchno-issledovatel'skii institut geologii Arktiki. Trudy,
vol.91).   (MIRA 13:5)
                    (Russia, Northern--Geology).

KIRYUSHINA, M.T.; SOKOLOV, V.N.

Basic characteristics of the most recent tectonics of the central
section of the Soviet Arctic. Trudy NIIGA 135:70-182 '63.

(MIRA 18:5)

ARBUZOV, Yu.A.; KIRYUSHKIN, A.A.; KOLOSOV, M.N.; OVCHINNIKOV, Yu.A.; SHEMYAKIN,
M.M., akademik

Ways of constructing a ring system of BA tetracyclines. Synthesis
of esters of substituted 2-oxocyclohexylacetic acids. Dokl.AN SSSR
137 no.5:1106-1109 Ap '61.   (MIRA 14:4)

1. Institut khimii prirodnykh soyedineniy AN SSSR i Moskovskiy
gosudarstvennyy universitet im. M.V.Lomonosova.
          (Tetracycline)   (Cyclohexaneacetic acid)

SHEMYAKIN, M.M.; OVCHINNIKOV, Yu.A.; ANTONOV, V.K.; KIRYUSHKIN, A.A.;
        IVANOV, V.T.; SHCHELOKOV, V.I.; SHKROB, A.M.

        Synthesis of 0,0'-diacetylserratomolide. Izv. AN SSSR.
        Ser. khim. no.12:2233 D '63.   (MIRA 17:1)

    1. Institut khimii prirodnykh soyedineniy AN SSSR.

RYABOVA, I. D.; PAVLENKO, I. A.; VINOGRADOVA, Ye. I.; OVCHINNIKOV, Yu. A.; ALDANOVA,
N. A.; KIRYUSHKIN, A. A.; IVANOV, V. T.; FEYGINA, M. Yu.

"Antimicrobial activity of depsipeptides."

report submitted for Antibiotics Cong, Prague, 15-19 Jun 64.

Inst for Chemistry of Natural Compounds, AS USSR, Moscow.

AVCHINNIKOV, Yu.A.; IVANOV, V.T.; KIRYUSHKIN, A.A.; SHEMYAKIN, M.M.

    Structure of enniatin A. Izv.AN SSSR.Otd.khim.nauk no.8:1497
Ag '62.   (MIRA 15:8)

    1. Institut khimii prirodnykh soyedineniy AN SSSR.
                 (Antibiotics)

SHEMYAKIN, M. M.; VINOGRADOVA, Ye. I.; FEYGINA, M. Yu.; ALDANOVA, N. A.;
OVCHINNIKOV, Yu. A.; KIRYUSHKIN, A. A.

Depsipeptides. Part 16: Paths in the synthesis of optically
active linear depsipeptides. Zhur. ob. Khim. 34 no.6:1782-
1797 Je '64.   (MIRA 17:7)
1. Institut khimii prirodnykh soyedineniy AN SSSR.

OVCHINNIKOV, Yu.A.; IVANOV, V.T.; KIRYUSHKIN, A.A.; SHEMYAKIN, M.M.,
        akademik

Conformation factors in the cyclization of depsipeptides.
Dokl. AN SSSR 153 no.6:1342-1345 D '63.   (MIRA 17:1)

1. Institut khimii prirodnykh soyedineniy AN SSSR.

OVCHINNIKOV, Yu.A.; IVANOV, V.T.; KIRYUSHKIN, A.A.

Depsides. Report No.6: Preparation of L-and D-N-methylvalines.
Izv. AN SSSR. Otd.khim.nauk no.11:2046-2054 N '62.

(MIRA 15:12)

1. Institut khimii prirodnykh soyedineniy AN SSSR.
(Valine)

SHEMYAKIN, M.M.; OVCHINNIKOV, Yu.A.; IVANOV, V.T.; KIRYUSHKIN, A.A.

     Total synthesis of sporidesmin 1. Izv.AN SSSR.Otd.khim.nauk no.9:1699-1700 S '62.   (MIRA 15:10)

   1. Institut khimii prirodynkh soyedinoniy AN SSSR.
                                (Sporidesmin)

SHEMYAKIN, M. M.; OVCHINNIKOV, Yu. A.; KIRYUSHKIN, A. A.; IVANOV, V. T.

Depsides. Report No. 7: Structure of enniatin B. Izv. AN SSSR
Otd. khim. nauk no.12:2154-2161 D '62.   (MIRA 16:1)

1. Institut khimii prirodnykh soyedineniy AN SSSR.

(Depsides)

OVCHINNIKOV, Yu.A.; IVANOV, V.T.; KIRYUSHKIN, A.A.; KHALILULINA, K.Kh.

Synthesis of sporidesmolic acid B. Izv.AN SSSR.Otd.khim.nauk
no.3:578-579 Mr '63.   (MIRA 16:4)

1. Institut khimii prirodnykh soyedineniy AN SSSR.
                         (Sporidesmolic acid)

SHEMYAKIN, M.M.; OVCHINNIKOV, Yu.A.; KIRYUSHKIN, A.A.; IVANOV, V.T.

Structure and total synthesis of enniatin B. Izv.AN SSSR.
Otd.khim.nauk no.3:579 Mr '63.   (MIRA 16:4)

1. Institut khimii prirodnykh soyedineniy AN SSSR.
(Enniatin)

OVCHINNIKOV, Yu.A.; KIRYUSHKIN, A.A.; IVANOV, V.T.; SHEMYAKIN, M.M.

Structure of sporidesmolide; part 2. Izv. AN SSSR. Otd.khim. nauk no.4: 770 Ap '63.   (MIRA 16:3)

1. Institut khimii prirodnykh soyedineniy AN SSSR.
                          (Sporidesmin)

SHEMYAKIN, M.M.; OVCHINNIKOV, Yu.A.; KIRYUSHKIN, A.A.; IVANOV, V.T.

Synthesis of enniatin A. Izv. AN SSSR. Otd.khim.nauk no.6:1148
Je '63.
(MIRA 16:7)

1. Institut khimii prirodnykh soyedineniy AN SSSR.
(Peptides)

OVCHINNIKOV, Yu.A.; IVANOV, V.T.; KIRYUSHKIN, A.A.;
SHEMYAKIN, M.M., akademik

Doubling mechanism in the cyclization of depsipeptides and peptides. Dokl. AN SSSR 153 no.1:122-125 N '63.

(MIRA 17:1)

1. Institut khimii prirodnykh soyedineniy AN SSSR.

SHEMYAKIN, M. M.; OVCHINNIKOV, Yu. A.; IVANOV, V. T.; KIRYUSHKIN, A. A.

"Studies in the conformation of cyclodepsipeptides."

report submitted for the 7th European Peptide Symp, Budapest, 3-8 Sep 64.

TSARITSYN, M.A.; ZAKHARENKO, N.I.; ODNODVORTSEV, P.Ye.; KIRYUSHKIN, A.M.;
    PROKOP'YEVA, Z.I.

Mechanized working of selenium ruby sheet glass.   Stek. i ker.
19 no.8:16-19 Ag '62.   (MIRA 15:9)
                                    (Glass, Colored)

KIRYUSHKIN, A.Ya.

Protective afforestation in the control of soil erosion. Okhr.
prir. Mold. no.2:42-46 '61.   (MIRA 15:8)
    (Moldavia--Soil conservation) (Moldavia--Afforestation)

KIRYUSHKIN, D.M., DMITRIYENKO, O.V., redaktor; MAKHOVA, N.N., tekhnicheskiy redaktor

[Chemistry; a manual for the 7th grade in seven-year and secondary schools] Khimiia; uchebnik dlia 7 klassa semiletnei i srednei shkoly. Izd. 4-oe. Moskva, Gos.uchebno-pedagog. izd-vo M-va prosv. RSFSR, 1952. 142 p.   (MLRA 10:10)
          (Chemistry)

KIRYUSHKIN, D.M.

[Methodology of teaching chemistry in secondary schools] Metodika
prepodavaniia khimii v srednei shkole: posobie dlia uchitelei.
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         (Chemistry--Study and teaching)

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Application of certain mathematical rules and formulas in chemistry classes. Khim.v shkole no.6:43-46 N-D '53. (MLRA 6:11)
(Chemistry--Study and teaching) (Mathematics)

KIRYUSHKIN, D.M.; DMITRIYENKO, G.V., redaktor; DZHATIYEV, S.G.,
tekhnicheskiy redaktor

[Chemistry; textbook for the 7th class of 7-year
and secondary schools] Khimiia; uchebnik dlia sed'mogo klassa
semiletnei i srednei shkoly. Moskva, Gos. uchebno-pedagog. izd-
vo Ministerstva prosveshcheniia RSFSR, 1954. 111 p. (MLRA 7:10)
(Chemistry)

KIRYUSHKIN, D.M.

Revised chemical manual for the 7th class. V.N.Verkhovskii.
Reviewed by D.M.Kiriushkin. Khim.v shkole 9 no.6:24-33 N-D '54.

(Chemistry--Study and teaching) (Verkhovskii, Vadim
(MLRA 8:1)
Nikandrovich, 1873-1947)

KIRYUSHKIN, D.M.

Methodology of chemical lecture experiments. Khim.v shkole 10 no.2:
30-38 Mr-Ap '55.
   (Chemistry--Experiments)   (MIRA 8:7)

KIRYUSHKIN, DMITRIY M)

YEGORKIN, Vasiliy Fedorovich; KIRYUSHKIN, Dmitriy Maksimovich;POLOSIN,
Viktor Semenovich; GRABETSKIY, A.A., redaktor; DZHATIYEV, S.G.,
tekhnicheskiy redaktor.

[Practical work in chemistry outside class; a manual for students
in secondary schools] Vneklassnye prakticheskie zaniatiia po khimii;
rukovodstvo dlia uchashchikhsia srednei shkoly. Pod obshchei red. A.
M.Kiriushkina.. Moskva,Gos.uchebno-pedagog.izd-vo M-va prosv. RSFSR,
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            (Chemistry--Laboratory manuals)

KIRYUSHKIN, D.M. (Moskva)

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36-40 Jl '56.   (Atoms--Study and teaching)   (MLRA 9:9)

KIRYUSHKIN, Dmitriy Maksimovich; SERONYENKOV, A.A., red.; NATAPOV, M.I.,
tekhn. red.

[Methods of teaching chemistry in secondary schools; manual for
teachers] Metodika prepodavaniia khimii v srednei shkole; posobie
dlia uchitelei. Izd.2., perer. Moskva, Gos. uchebno-pedagog. izd-
vo M-va prosv. RSFSR, 1958. 610 p.   (MIRA 11:9)
                         (Chemistry—Study and teaching)

KIRYUSHKIN, Dmitriy Maksimovich (Institute of the Theory and History of Pedagogics of the Acad of Pedagogical Sci/ RSFSR) for Doc of Pedagogical Sciences, on the basis of dissertation defended 11 Sep 59 in Council of Sci Res Inst of the Methods of Teaching of the Acad of Pedagogical Sci RSFSR, entitled: "The Methodics of Teaching Chemistry in High Schools."
(BAVISSO USSR, 2-61, 22)

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KIRYUSHKIN, D.M.

Planned chemistry program for the eight-year and eleven-year schools. Khim.v shkole 15 no.1:57-59 Ja-F '60.

(MIRA 13:5)

(Chemistry--Study and teaching)

GOREMYKIN, V.I.; KIRYUSHKIN, D.M.; MALININA, S.I.; PKHAKADZE, Ye.A.; FURSOVA,
    K.N.

Independent work of eight grade students in the first topic of their
chemistry course. Khim. v shkole 15 no.5:21-30 S-O '60.
                                                  (MIRA 13:10)

        (Chemistry--Study and teaching)

KIRYUSHKIN, D.M.; MALININA, S.I.; FURSOVA, K.N.

Independent work of students in laboratory classes on chemistry.
Khim. v shkole 17 no.2:17-28 Mr-Ap '62.   (MIRA 15:3)
(Chemistry—Study and teaching)

YAKOVLEV, Fedor Ivanovich; KIRYUSHKIN, Dmitriy Maksimovich;
        VOROB'YEV, Gennadiy Vasil'yevich; KULIKOV, V.N., red.;
        POLUKARPOVA, Ye.K., tekhn. red.

        [Laboratory practice for students] Laboratorno-praktiche-
        skie raboty uchashchikhsia. Moskva, Izd-vo APN RSFSR, 1963.
        229 p.   (MIRA 16:8)
                (Science--Problems, exercises, etc.)

VASIK, G.Ye.; KIRYUSHKIN, D.M.; LAVRENT'YEVA, A.V.; SYROYEZHKIN, I.T.

Organizing the independent work of students during the study
of the general properties of elements. Khim. v shkole 18
no.4:43-48 Jl-Ag '63.   (MIRA 17:1)

KIRYUSHKIN, I.

What figures tell. Zhil.-kom. khoz. 13 no.5:23-24 My '63.
(MIRA 16:8)

1. Starshiy ekonomist TSentral'nogo statisticheskogo upravleniya
SSSR.

(Laundries)

KIRYUSHKIN, K.I.

      Quick-acting closing device. Transp. i khran. nefti no.1:28
      '63.   (MIRA 16:9)

      1. Sverdlovskaya neftebaza Glavnogo upravleniya po transportu
      i snabzheniyu neft'yu i nefteproduktami RSFSR.

KIRYUSHKIN, K.I.; ARTEMOV, A.V.

Suggestion on design changes for service stations. Transp. i khran. nefti i nefteprod. no.7:27-29 '65.   (MIRA 18:9)

1. Sverdlovskaya perevalochnaya neftebaza.

KIRYUSHKIN, K.I.

Preparation of tanks for repair. Neftianik 6 no.7:17-18 Jl '61.
(MIRA 14:7)

1. Glavnyy inzh. Shartashskoy neftebazy Sverdlovskoy oblasti.
(Tanks—Maintenance and repair)

1. KIRYUSHKIN N. Eng

2. U SSR (600)

4. Tractors

7. Lowering cost of tractor operations. MTS 12no. 11, 1952.

9. Monthly List of Russian Accessions, Library of Congress, ____April____ 1953, Uncl.

1. STEPANENKO, V.; EVTIKHYEV, N.; KIRYUSHKIN, N., Eng.

2. USSR (600)

4. Machine-Tractor Stations

7. Utilizing all possibilities for increasing yeild, MTS, 13, no. 4, 1953.

9. Monthly List of Russian Accessions, Library of Congress, ____April____ 1953, Uncl.

ZAYTSEV, I.A., inzh.; KIRYUSHKIN, P.A., inzh.

Power plant on the tank vessel "Mir." Sudostroenie 28 no.2:
37-40 F '62.   (MIRA 15:3)
              (Marine gas turbines) (Tank vessel)

KIRYUSHKIN, V.

Communists are leading the competition of rural builders. Sel'. stroi.
14 no.11:4-5 N '59   (MIRA 13:3)

1. Sekretar' Yershovskogo raykoma Komunisticheskoy partii Sovetskogo
Soyuza Saratovskoy oblasti.
        (Yershov--Farm buildings)

GUS'KOVA, A.K.; YURKOV, N.N.; KIRYUSHKIN, V.I. (Moskva)

Compensatory reactions in insufficiency of the brain's blood
supply. Zhur.nevr.i piskh. 61 no.10:1457-1462 '61.
(MIRA 15:11)
(CEREBROVASCULAR DISEASES) (ELECTROENCEPHALOGRAPHY)

KIRYUSHKIN, V.N.

Development of bogs on gentle slopes in fluvioglacial deposit areas
as exemplified by southeastern Karelia. Uch. zap. Petrozav. gos. un.
12 no.2:85-89 '64.   (MIRA 18:7)

KIRYUSHKIN, V.N. (Leningrad)

Some bog systems of Archangel Province (based on the example of the
bog system of the Mezen'-Kuloy interfluve). Bot. zhur. 50 no.3:375-
378 Mr '65.   (MIRA 18:5)

BAGROBA, Z.A.; KIRYUSHKIN, V.N.

Relation of swamps and bogs to relief, Quaternary sediments
and recent tectonic movements. Dokl. AN SSSR 154 no.2:
337-340 Ja'64.   (MIRA 17:2)

1. Laboratoriya aerometodov Ministerstva geologii i okhrany
nedr SSSR, Leningrad. .Predstavleno akademikom D.V. Nalivkinym.

KIRYUSHKIN, Viktor Vladimirovich; KLIPEL', Vladimir Ivanovich

[Voyage on the "Skorlupka."] Puteshestvie na "Skarlupke."
Blagoveshchensk, Amurskoe knizhnoe izd-vo, 1958. 171 p.
(MIRA 12:6)

(Amur Valley--Description and travel)

KIRYUSHKIN, Viktor Vladimirovich; KLIPEL', V.I.

[Voyage on the "Skorlupka."] Puteshestvie na "Skorlupke." Moskva,
Molodaia gvardiia, 1960. 157 p.   (MIRA 14:10)
                    (Amur Valley—Description and travel)

SHIPITSYN, S.A.; KIRYUSHKIN, V.V.; YERMOLAYEV, A.A.

Gas burner for flame photometry of powder specimens. Zav. lab. 31
no.2:253 '65.   (MIRA 18:7)

1. Irkutskiy gosudarstvennyy universitet.

KIRYUSHKIN, Yu. I.

Dissertation: "Viscosity and Electrical Conductivity of Lime-Silica Fusions and Their Effect on the Properties of Chromium Oxides." Cand Tech Sci, Moscow Inst of Steel, Moscow, 1953. (Referativnyy Zhurnal--Khimiya, Moscow, No 4, Feb 54)

SO: SUM 243, 19 Oct 54

bn

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SOV/137-57-6-9643

The Viscosity and Electrical Conductivity of Lime-silicon Melts

of the investigation are presented in the form of curves of variation in η (2-20 poises) and x (0.1-0.8 $ohm^{-1}cm^{-1}$) versus temperature. The ionic nature of the conductivity of CaO and SiO_2 melts is confirmed. No correspondence between the η and x isotherms and the fusibility diagram of the $CaO-SiO_2$ systems is found at above 1550°. It is assumed that a rapid increase in η and drop in x starting at ~45 mol.% CaO is induced by an intensification of the polymerization of the SiO_4^{4-} silicate tetrahedra and formation of more complex $Si_xO_y^{z-}$ types.

O.B.

Card 2/2

SOV/137-58-12-24176
Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 12, p 36 (USSR)

AUTHORS: Skoblo, S. Ya., Bul'skiy, M. T., Kiryushkin, Yu. I., Alimov, A. G.,
            Pereverzeva, Ye. G., Sviridenko, F. F

TITLE: Visual Slag Control in High-Phosphorus Iron Conversion (Vizual'-
            nyy kontrol' shlaka fosforistogo peredela)

PERIODICAL: Sb. nauchn. tr. Zhdanovsk. metallurg. in-t, 1957, Nr 4, pp 61-76

ABSTRACT: The basicity and degree of oxidation of a slag cake cast into an iron
            sampler is estimated by the appearance of its upper and lower surface
            and its fracture. The basicity indicator chosen for open-hearth slags
            in conversion of high-phosphorus pig iron is $V_1 = CaO/SiO_2 + P_2O_5$.
            The % ratio of P_2O_5 and Fe to V_1 is empirically expressed in the
            form $P_2O_5\% = 68/V_1 + 2.5$, and $\Sigma(Fe) = 1.5 + 4V_1$. An analogous con-
            nection is established between the sum of P_2O_5 and SiO_2 and $\Sigma(Fe)$.
            Visual determination of V_1 makes it possible to determine P_2O_5 and
            $\Sigma(Fe)$ % in slags to an accuracy adequate for all practical purposes.
            Toward this end, a standard scale by slag sub-groups is established,
            permitting determination of V_1 to an accuracy of $\pm 0.2-0.3V_1$. A
            description and photographs of slag cakes of various basicities is
Card 1/2

SOV/137-58-12-24176

Visual Slag Control in High-phosphorus Pig-iron Conversion

established, and the identifying characteristics of a slag cake permitting deformation of up to 0.03% P before deoxidation are presented.

Yu. K.

Card 2/2

SOV/137-58-8-16394

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 24 (USSR)

AUTHOR: Kiryushkin, Yu.I.

TITLE: The Electrical Conductivity of the CaO - SiO$_2$ - Cr$_2$O$_3$-type
            Slags (Elektroprovodnost' shlakov v sisteme CaO-SiO$_2$-Cr$_2$O$_3$)

PERIODICAL: Sb. nauchn. tr. Zhdanovsk. metallurg. in-t, 1957, Nr 4,
             pp 88-96

ABSTRACT: (CaO) varied from 41.5 to 53.5%, (Cr$_2$O$_3$) did not exceed 18%.
            The temperature of the test was $\leq 1600^{\circ}$C. The CaO:SiO$_2$
            ratio was kept at 1.0-1.3 with a variable (Cr$_2$O$_3$) and additions
            of MgO. The electrical conductivity was determined by means
            of a measurement of the resistance of the slag between the
            graphite crucible and the centrally located W electrode with
            two immersions of it in the slag. The results of the experi-
            ments point to the ionic character of the conductivity of the
            slags studied. In weakly alkaline slags Cr is present in the
            form of Cr^{3+} and Cr^{2+}. The proportion of the latter in-
            creases with a decrease in the basicity which is indicated by
Card 1/2   the higher values of x of slags containing Cr. At 1500° Cr^{2+}

SOV/137-58-8-16394

The Electrical Conductivity of the CaO - SiO$_2$ - Cr$_2$O$_3$-type Slags

disappears with the formation of Cr^{3+} and metallic Cr, which is indicated
by a slower decrease of x upon the crystallization of chromous slags than
of slags containing no Cr. Consequently, the appearance of electronic con-
ductivity of the slag is possible during the period of disappearance of Cr^{2+}.
Because the x of basic slags decreases with an increase in (Cr$_2$O$_3$), the
author assumes the presence of molecules of Cr$_2$O$_3$ in the slags.

Yu.N.

1. Slags--Conductivity   2. Metal oxides--Properties

Card 2/2

SOV/130-59-1-8/21

AUTHORS: Skoblo S.Ya., Kazachkov Ye.A., Pereverzeva Ye.G.,
             Kiryushkin Yu.I., Strakhov V.G., Sviridenko F.F.,
             Bul'skiy M.T., and Alimov A.G.

TITLE: Quality of a Rail-Steel Ingot weighing 9.75 Tonnes
             (Kachestvo slitka rel'sovoy stali vesom 9.75 t)

PERIODICAL: Metallurg, 1959, Nr 1, p 19 (USSR)

ABSTRACT: At the "Azovstal'" works rail-steel ingot weight has been
            increased for 6.6 to 9.75 tonnes to increase casting-pit
            capacity and improve the utilization of rolling mill
            capacity. The authors give a brief description of the
            results of comparative investigations of large and small
            ingots. The quality was evaluated from sulphur prints of
            longitudinal ingot sections, from the macro-structure
            (with deep etching) of transverse strips, differences in
            the etching of samples from different zones of the ingot
            and distribution of segregated impurities and non-
            metallic inclusions in the ingot. Among the conclusions
            drawn are that the two ingot types are equal in physical,

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SOV/130-59-1-8/21

Quality of a Rail-Steel Ingot weighing 9.75 Tonnes

structural and chemical heterogeneity, the non-metallic inclusions in the large ingot do not exceed those in a sound 4.0-tonne rail-steel ingot; the amount of non-metallic inclusions, which greatly affect the mechanical properties, can be reduced by careful preparation of runner and ladle.

ASSOCIATION: Zhdanovskiy metallurgicheskiy institut (Zhdanov metallurgical institute) and the "Azovstal'" works

Card 2/2

AUTHORS: Kazachkov, Ye. A., Skoblo, S. Ya., Kiryushkin, Yu. I., Dorokhov, V. I., Sapelkin, N. F.

TITLE: Investigating the thermal work of molds for forging ingots

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 3, 1962, 44, abstract 3V268 ("Sb. nauchn. tr. Zhdanovsk. metallurg. in-t", 1960, no. 6, 68-109)

TEXT: The thermal work of molds was investigated during the solidification of three different sizes of forging ingots, cast into octahedral through-molds with a floating riser. One of the ingots weighing 24.5 tons was cast into a mold at top position of the floating riser; the second ingot weighing 24.5 tons - at a lower position of the floating riser, and the third ingot, weighing 42.5 tons, at a considerable immersion of the floating riser into the mold. All the ingots were cast from grade 55X (55Kh) steel from different heats, melted in basic open hearth furnaces. The temperature distribution at various spots across the mold walls was determined during the solidifying of the ingot from readings of 24 - 26 thermocouples, which were placed on the mold walls at different depths and several height levels. Moreover, during the solidification process, periodic

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S/133/61/000/002/002/014
A054/A033

AUTHORS: Skoblo, S.Ya., Candidate of Technical Sciences, Strakhov, V.G.,
Candidate of Technical Sciences, Kiryushkin, Yu.I., Candidate of
Technical Sciences, Chernyshev, I.S., Engineer, Oleshkevich, T.I.,
Engineer

TITLE: Heat Insulation of the Dozzle Metal of 8-15 Ton Slabs

PERIODICAL: Stal', 1961, No. 2, pp. 119-123

TEXT: The metal losses in the riser can only be reduced by improving the
thermal conditions of the dozzle. This is possible by improving the heat
insulation and the thermal activity of lunkerites used. When studying this
problem at the zavod im.Il'icha (Plant im.Il'ich) the following kinds of
lunkerites were used: (in %)

	45%-ferrosilicium	Coke Breeze	Chamotte	Bauxite
Л1 (L1)	-	45	55	-
Л2 (L2)	30	25	30	15

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S/133/61/000/002/002/014
A054/A033

Heat Insulation of the Dozzle Metal of 8-15 Ton Slabs

The CT.3сп (St.3 sp) type slabs investigated for this purpose were cast according to the conventional technology, by scattering 1.8-2.0 kg/ton lunkerite on the surface. Two types of ingot molds were used: conventional
(ЛП 8-11, ЛП11-15 = LP8-11, LP11-15) and semi-hammered type (ЛП8-11п,
ЛП11-15п = LP8-11p, LP11-15p) for 8-15 ton ingots, with changeable bottom.
Steel was poured through an intermittent device with two spouts, 28 mm in
diameter, at a distance of 700 mm from each other. The dozzles were lined
with chamotte bricks. On account of the considerable thickness of the lining (115-155 mm) the risers were filled with 20-19% of the slab metal. Since
the heat losses depend on the surface and the temperature of the various layers of the dozzle wall, their temperature was registered by means of several
chromel-alumel thermocouples (Fig.2) and with ЭПП-09 (EPP-09) electronic
potentiometers. In the thermal calculations the formula for flat walls was
used assuming a linear heat distribution in the thickness of every lining
layer. The amount of heat accumulating on 1 m2 of a homogenous layer of
the lining was determined by

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S/133/61/000/002/002/014
A054/A033

Heat Insulation of the Dozzle Metal, of 8-15 Ton Slabs

$$Q_1 = \Sigma q_i \quad (1)$$

$$q_i = \delta_i \gamma_i c_i (t_{i\ aver} - t_{i\ init}) \quad (2)$$

and

[Abstracter's note: Subscript aver is the translation of the Russian subscript c_p = средний (srednyy) and subscript init is the translation of нач = начальный (nachal'nyy)]. In formula (1) : Q_1 = amount of heat accumulated on 1 m^2 of the dozzle wall, in cal/m^2; q_i = idem, for 1 m^2 of a homogeneous layer of the wall, δ_i, γ_i, c_i = width (m), volumetric weight (kg/cu m) and heat capacity (cal/kg °C) of the homogeneous layer; $t_{i\ init}$ and $t_{i\ aver}$ = the corresponding initial and average temperature of the layer, in °C.
The heat losses caused by radiation and convection on 1 m^2 of the external dozzle surface were calculated from the expression:

$$Q_2 = \alpha(t_{s.aver} - t) \quad (3)$$

were Q_2 = amount of heat released by 1 m^2 of the external dozzle surface during τ time, in cal/m^2; α = the coefficient of heat loss of this surface, in cal/m^2 h°C; [Abstracter's note: Subscript s.aver (surface average is the

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A054/A033

Heat Insulation of the Dozzle Metal of 8-15 Ton Slabs

translation of the Russian π.ср - поверхность средний (poverkhnost')]. τ - time for which Q_2 is determined, in hours. It was established that maximum heat losses arose when the dozzle was insulated in the conventional manner, with a high heat capacity. However, these losses are not considerable, about 13-20% of the total losses. The effect of the improved heat conditions of the dozzle on the duration of metal solidification was also studied (by sounding and extrapolating the results for the entire height of the ingot). It was found that the crystallization depends not so much on the weight of the ingot, but rather on the type of mold used. To make a definite assessment of the effect of heat conditions of the dozzle, 237 ingots (8-15 t) were cast from St.3 steel, with a smaller riser (16% of the nominal ingot weight). It was found that this decrease of the riser did not result in an increase of slabs showing laminations at the top. This can be explained by the satisfactory localization of shrinkage holes in this part of the ingot. The service life of the chamotte layer could be increased about 3 times, by straightening out the curves of its side surfaces. Further improvement in

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A054/A033

Heat Insulation of the Dozzle Metal of 8-15 Ton Slabs

this respect can still be obtained by structural changes of the dozzle. Thus, by applying a double-layer lining (115 mm thick foam chamotte and 40 mm thick chamotte brick layer), about 2.5-4% of the metal can be saved by the localization of the shrinkage holes in the risers. The saving amounted to 10.8 rubles/ton for bridge steel, 11.1 rubles/ton for carbon steel and 12.3 rubles /ton for boiler steel. (1960 currency). There are 6 figures and 2 tables.

ASSOCIATION: Zhdanovskiy metallurgicheskiy institut (Zhdanovzk Metallurgical Institute) and zavod im.Il'icha (Plant im.Il'ich)

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Heat Insulation of the Dozzle Metal of 8-15 Ton
Slabs

S/133/61/000/002/002/014
A054/A033
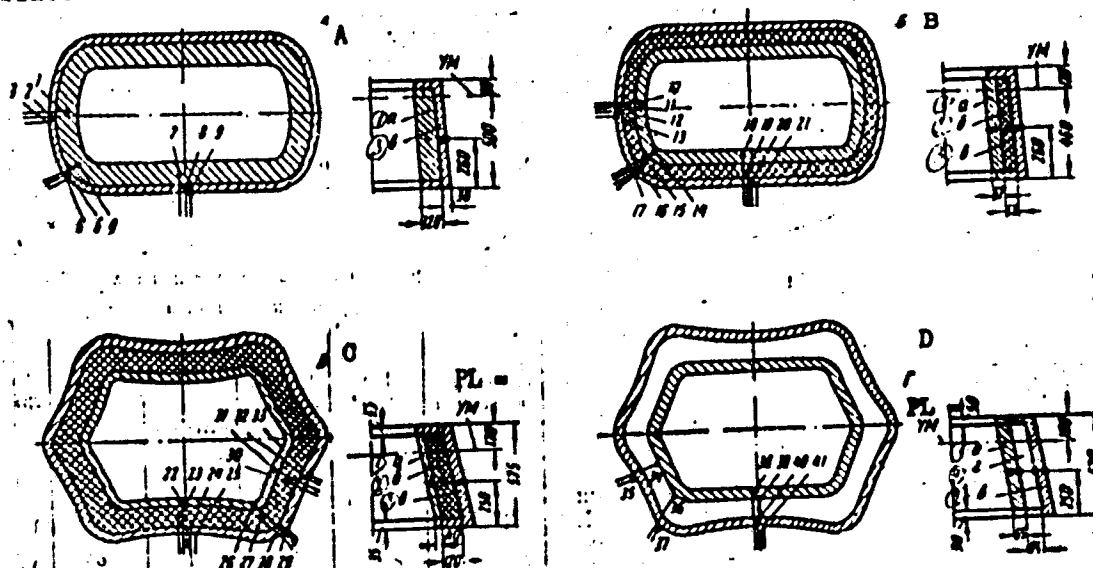
Figure 2

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Heat Insulation of the Dossle Metal of 8-15 Ton   S/133/61/000/002/002/014
Slabs   A054/A033

Figure 2:   (continued)

Scheme of lining dozzles and the arrangement of thermocouples in them:
A - first variant of insulation; B - second and third variant; C - fourth
variant; D - fifth variant
(1 - chamotte, 2 - foam chamotte, 3 - iron case, 4 - air gap, PL - УНМ -
pouring level; 1-41 number of thermocouples)

√

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Heat Insulation of the Dozzle Metal of 8-15 Ton   S/133/61/000/002/002/014
Slabs   A054/A033

Figure 3:   Time of filling the ingot mold, min. $\sqrt{}$

Distribution of
temperature at 1/4
of the periphery
of the dozzle (the
points on the curv-
es - from left to
right - correspond
with the thin edge,
the rib and the wide
edge of the dozzle

1 - chamotte,
2 - foam-chamotte,
3 - center of the
    case thickness,
4 - external sur-
    face of the
    case

Temperature, °C

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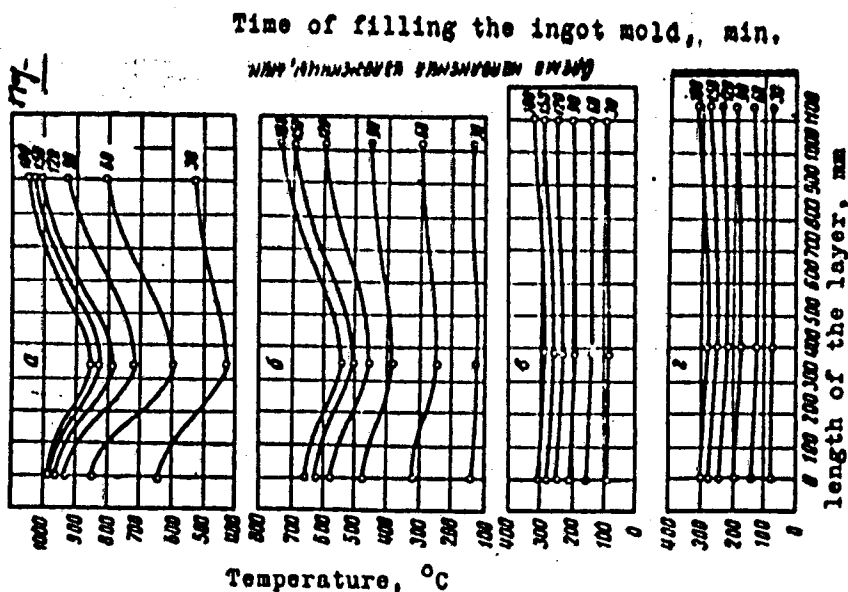
S/133/61/000/002/002/014

Heat Insulation of the Dozzle Metal of 8 - 15 Ton Slabs   A054/A033

Figure 4: Heat losses on 1 m^2 of the dozzle surface. 1 - amount of heat accumulated by the dozzle wall.

(I - V; variants of insulation methods, Table 1)

Vertical legends: Heat losses, 10^3 cal/m^2
Horizontal legend: Time from the beginning of the filling of the riser, min.
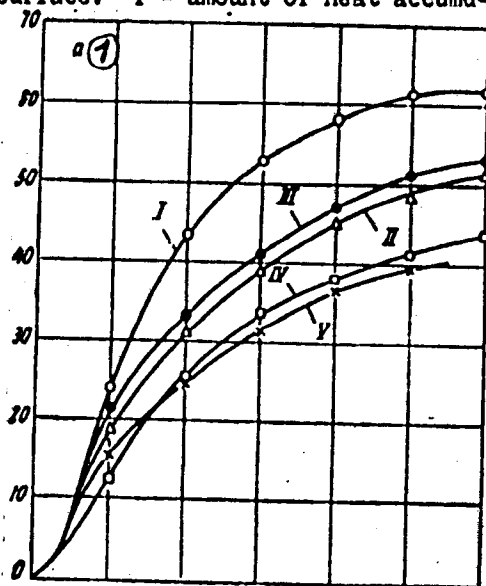
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Heat Insulation of the Dozzle Metal of 8 - 15 Ton Slabs

Figure 4 (continued): 2 - heat losses
due to convection and radiation;
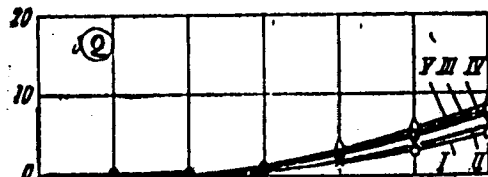
3 - total losses
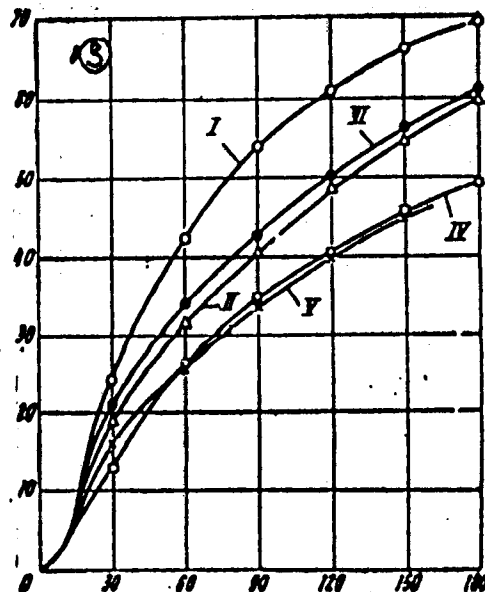
Card 10/10

37237

S/148/62/000/003/002/011
E071/E435

AUTHORS: Skoblo, S.Ya., Kazachkov, Ye.A., Strakhov, V.G.,
Kiryushin, Yu.I., Sapelkin, N.F.

TITLE: A study of the kinetics of the process of
solidification of the axial part of an ingot by the
method of differential probing

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy.
Chernaya metallurgiya, no.3, 1962, 53-59

TEXT: A method of probing of ingots during their solidification
and some results on the kinetics of solidification of ingots of
the most prevailing shape (wide-side up with a relatively small
ratio of the height to mean cross-section) are described.   After
a brief survey of the usual methods of investigation of the
process of solidification of ingots (emptying after a given
solidification time, additions of radioactive element at given
time intervals during the solidification process, probing with a
rod) the authors consider that neither method by itself gives
sufficient information on the solidification process.   Moreover,
a comparison of the results obtained by various methods indicates

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A study of the kinetics ...

S/148/62/000/003/002/011
"071/E435

that the solidification of ingots of the shapes investigated in
the vertical direction is completed earlier than in the
horizontal direction. Therefore, in the authors' view an
improved method of vertical probing which they developed gives
more information on the kinetics of solidification of ingots and
does not interfere with the subsequent utilization of the probed
ingots. The method, called different#ial probing, consists of
inserting a mild steel rod (12 mm in diameter) into the ingot
under its own weight and noting the length of the immersed part
of the rod (height of the liquid phase) then by applying a certain
force the rod is immersed to the solid bottom of the ingot and
again the length of the rod immersed is noted. The difference
gives the height of the two phase (liquid + solid) zone. Other
data, characterizing the kinetics of solidification, can be
calculated from the above measurements, for instance the height
of the solid bottom layer and, if the initial level of the metal
in the top is known, shrinkage to the moment of probing. By
repeating such measurements throughout the solidification period,
kinetic curves characterizing vertical movement of the solid phase
Card 2/3

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A study of the kinetics ...   E071/E435

were obtained.   These showed the existence of three distinct
zones: the initial and final - parabolic in shape - and the
intermediate - close to a straight line.   Changes in the height
of the two phase zone are expressed by a curve with a maximum
corresponding to the middle of the total period of solidification.
A more detailed discussion of the results obtained will be
published later.   There are 6 figures.

ASSOCIATION: Zhdanovskiy metallurgicheskiy institut
            (Zhdanov Metallurgical Institute)

SUBMITTED: February 17, 1961

Card 3/3

SKOBLO, S.Ya.; KAZACHKOV, Ye.A.; STRAKHOV, V.G.; KIRYUSHIN, Yu.I.;
        SAPELKIN, N.F.

        Studying the kinetics of the solidification process in the
        axial part of an ingot by differentiated probing. Izv. vys.
        ucheb. zav.; chern. met. 5 no.3:53-59 '62.   (MIRA 15:5)

        1. Zhdanovskiy metallurgicheskiy institut.
                (Steel ingots--Testing) (Solidification--Testing)

SVIRIDENKO, F.F.; KIRYUSHKIN, Yu.I.; KAZACHKOV, Ye.A.; LESENKO, I.I.

    Riser head with a two-layer lining. Metallurg 8 no.2:20
    F '63.   (MIRA 16:2)

    1. Azovskiy staleplavil'nyy zavod im. Sergo Ordzhonikidze
    v Zhdanove i Zhdanovskiy metallurgicheskiy institut.
                          (Steel ingots)

KAZACHKOV, Ye.A.; KIRYUSHKIN, Yu.I.; SKOBLO, S.Ya.; BUL'SKIY, M.T. [deceased];
    SVIRIDENKO, F.F.; SAPELKIN, N.F.

Formation and heterogeneity of rail ingots cast in ingot molds
with a varying wall thickness. Izv. vys. ucheb. zav.; chern.
met. 7 no.11:75-80 '64.   (MIRA 17:12)

1. Zhdanovskiy metallurgicheskiy institut.

ACC NR: AR6020051   SOURCE CODE: UR/0276/66/000/001/B086/B086

AUTHOR: Il'yushko, Ye. G.; Kiryukhin, Yu. I.; Pshenichnov, Yu. P.

TITLE: Methods for reducing warpage in components made from aluminum alloys

SOURCE: Ref. zh. Tekhnologiya mashinostroyeniya, Abs. 1B620

REF SOURCE: Sb. dokl. k Novosib. nauchno-tekhn konferentsii po mashinostr.
Novosibirsk, 1964, 141-147

TOPIC TAGS: aluminum alloy property, alloy heat treatment

ABSTRACT: It is shown that warping in aluminum components with large dimensions and
the formation of cracks are due to the harmful effect of internal stresses. One ef-
fective method for eliminating internal stresses in components made from aluminum al-
loys is quenching of these components in hot or boiling water. The level of internal
stresses is reduced by the reduction in temperature gradient. For instance, when
AK4-1 and AK-6 alloys are quenched in boiling water, internal stresses are reduced to
10-15 kg/mm^2 in comparison with 20-30 kg/mm^2 after quenching in cold water. Another
effective method for reducing warpage in components is the use of a special mandrel
during mechanical finishing. 3 illustrations, 3 tables, bibliography of 3 titles.
L. Tikhonova. [Translation of abstract]

SUB CODE: 11, 13

UDC: 620.191.36

KLAYN, V. [Klyne, W.]; KIRYUSHKINA, A.A. [translator]

Optical rotatory dispersion. Usp.khim. 31 no.3:385-396 Mr '62.
(MIRA 15:3)

(Optical rotation)   (Dispersion)

KREMS, A.Ya.; MISHAKOV, V.N.; MODELEVSKIY, M.Sh.; KIRYUSHKINA, A.A.;
    YUDIN, Ye.Ya.

    Ukhta petroleum. Neft. khoz. 42 no.9/10:80-84 S-0 '64.
                                                (MIRA 17:12)

VOLODINA, M.A.; MISHINA, V.G.; TERENT'EV, A.P.; KIRYUSHKINA, G.V.

Synthesis and properties of pyrrolidines and pyrroles. Part 9:
Cyclopentano- and cyclohexanopyrroles. Zhur.ob.khim. 32 no.6:1922-
1925 Je '62.   (MIRA 15:6)
        (Pyrrole)   (Cyclohexane) (Cyclopentane)

TERENT'YEV, A.P.; VOLODINA, M.A.; KIRYUSHKINA, G.V.

Synthesis and properties of pyrrolidines and pyrroles. Part 11:
Cyclopentano-2,3-pyrrolidines. Zhur.ob.khim. 32 no.6:1925-1927
Je '62.   (MIRA 15:6)
                (Pyrrolidine)   (Cyclopentane)

VOLODINA, M.A.; KIRYUSHKINA, G.V.; TERENT'YEV, A.P.

Synthesis of cycloalkano-2,3-pyrolidines and steric course of Leikart's reaction. Dokl. AN SSSR 162 no.1:90-93 My '65.   (MIRA 18:5)

1. Moskovskiy gosudarstvennyy universitet. 2. Chlen-korrespondent AN SSSR (for Terent'yev).

KEL'MAN, F.N.; KIRYUSHKINA, M.S.

Improved method for determining arsenic in vanadium catalysts.
[Trudy] NIUIF no.164:45 '59.   (MIRA 15:5)
                         (Arsenic—Analysis)

ZENIN, A.A.; KIRYUSHKINA, V.V.; MOROZOVA, G.M.

    Regimen of principal ions of the Volga River in the tail water
of the Volgograd Reservoir, 1959-1961. Gidrokhim. mat. 38:3-11
'64.

    Flow of dissolved substances of the Volga River into the Caspian
Sea. Ibid.:12-16

    Regimen of biogenic and organic substances and dissolved gases of
the Volga River in the tail water of the Volgograd Reservoir,
1959-1961. Ibid.:17-24   (MIRA 18:4)

    1. Gidrokhimicheskiy institut AN SSSR, Novocherkassk.

KIRYUSHOV, A.YA.

AID P - 4849

Subject   : USSR/Engineering

Card 1/2   Pub. 103 - 9/26

Authors   : Morozov, I. K., P. A. Sharanov and A. Ya. Kiryushov

Title   : Control devices for parts processed in grinding machines

Periodical   : Stan. 1 instr., 2, 25-28, F 1956

Abstract   : The authors present several measuring devices installed
                   on cylindrical grinding machines, on surface grinders,
                   and others. They illustrate the construction and
                   describe the operation of these devices; their advan-
                   tages in increased productivity of the machines, and
                   their immediate effect on quality and precision of
                   finished products. The use of such control instruments
                   reduces spoilage and minimize the time required in
                   manual inspection. Six drawings.

AID P - 4849

Stan. i instr., 2, 25-28, F 1956

Card 2/2   Pub. 103 - 9/26

Institution : Interchangeability Bureau of the Ministry of Machine
              Tools and Apparatus Industry (MSiIP)

Submitted   : No date

DRAUDIN, A.T., inzh.; KIRYUSHOV, A.Ya.

    Automatic monitors. Mekh.i avtom.proizv. 18 no.2:24-27 F '64.
                               (MIRA 17:4)

SOBOLEV, I. A.; KIRYUSHOV, L. Yu.

Automatic universal testing unit. Izm. i instr. 35 no.5:93-92
My '64. (MIRA 17:7)

KIRYUSHOY, P. Ya.

PROCESSES AND PROPERTIES INDEX

The contact isomerization of ethylene hydrocarbons over metallic oxides. I. Isomerization of biallyl over chromium oxide. R. Ya. Levina and P. Ya. Kiryushov. J. Gen. Chem. (U. S. S. R.) 9, 1834-40(1939); cf. C. A. 31, 8510.—If Cr₂O₃ instead of Al₂O₃ is used in the previous procedure, biallyl is fully isomerized without polymerization to bipropenyl at 225–310°. Bipropenyl, b. 90.5 2°, n 1.4819, d 0.7174, M. R. 30.8, when condensed with maleic anhydride by the method of Diels, et al. (C. A. 24, 3083), gave p-dimethyltetrahydro-o-phthalic anhydride, m. 94°.   Chas. Black

KIRYUSHOV4P8YA8   600

1. LEVINA, R. Ya., KIRYUSHOV, P. Ya.

2. USSR (600)

"The Isomerization of Unsaturated Hydrocarbons in Contact with Metallic
Oxides — II. The Isomerization of Diallyl under the influence of Contact
with Chromium Oxide", Zhur. Obshch. Khim. 9, No. 20, 1939. Laboratory
of Organic Chemistry imeni Academician N. D. Zelinskiy, Moscow State Univ.
Received 29 April 1939.

9. ▉▉ Report U-1626, 11 Jan 1952.

KIRYLLSHOV, P. Ya.

KIRYUSHOV, V.N.

2.1. f yoo

S/149/62/000/002/007/008
A006/A101

AUTHORS: Davankov, A. B., Laufer, V. M., Azhazha, E. G., Gordiyevskiy, A. V., Kiryushov, V. N.

TITLE: Experiences in extracting uranium and other elements from Atlantic Ocean water

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya Metallurgiya, no. 2, 1962, 118-123

TEXT: Experiments of extracting various elements from Atlantic Ocean water were carried out in 1959, during the sixth Atlantic expedition of the Marine Hydrophysical Institute of AS SSSR. Water from various parts of the Atlantic was filtered through an absorption column mounted on board the expedition vessel. This vinylplastic column, 1,600 mm high with 63 mm internal diameter, was filled with 3.5 kg granulated H-0 anion-exchange resin in Cl form of 64% moisture. An amount of 59,189 liters of water was filtered through the column at an average rate of 40 l/hour. The qualitative and quantitative determination of various elements in the resin was carried out by radiometric j-radiation, luminescent and polarographical analyses. The amount of uranium

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Experiences in extracting uranium ....

S/149/62/000/002/007/008
A006/A101

extracted on conversion to the total amount of air-dry H-0 resin was 303 mg according to data of radiometrical analysis; 413 mg according to luminescent analysis, and 417 mg according to polarographical analysis. The uranium content in the Atlantic water calculated from these data was: $5,12 \cdot 10^{-6}$ g/l; (radiometric analysis); $6,99 \cdot 10^{-6}$ g/l (luminescent analysis) and $7.04 \cdot 10^{-6}$ g/l (polarographical analysis) or on conversion to normal sea water $4.7 \cdot 10^{-6}$ g/kg; $6.41 \cdot 10^{-6}$ g/kg and $6.47 \cdot 10^{-6}$ g/kg, respectively. Semi-quantitative spectroscopical analysis of ash residue after burning the O-H resin was used to establish the presence of small amounts of silver, strontium, bismuth, zinc, copper, manganese, iron, aluminum, silicon, calcium, magnesium, and sodium. The silver content in the absorbent was determined by cupellation of the ash residue after burning 200 g O-H resin. An amount of 2.5 mg pure silver was then separated out which is $5.75 \cdot 10^{-7}$ g per one liter of water. There are 4 tables and 13 references: 6 Soviet-bloc and 7 non-Soviet-bloc

ASSOCIATIONS: Moskovskiy khimiko-tekhnologicheskiy institut (Moscow Chemical and Technological Institute); Kafedra tekhnologii plastmass (Department of the Technology of Plastics)
SUBMITTED: February 25, 1961

Card 2/2

MIKHAYLOV, Ya. Ye.; NABOYCHENKO, K. V.; ASTASHENKOV, N. N.; KIRYUTIN, A. A.

"Investigation into critical heat fluxes in a channel of annular cross-section with forced motion of acetone subcooled below the saturation temperature."

paper submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk, 4-12 May 1964.

Moscow Engineering & Physical Inst.

L 39739-66   EWT(1)/EWT(m)/EPF(n)-2/ETC(f)/EWG(m)   IJP(c)   RM/RW/GS/GD-2
ACC NR: AT6005822   SOURCE CODE: UR/0000/65/000/000/0143/0150

AUTHORS: Mikhaylov, L. Ye.; Naboychenko, K. V.; Kiryutin, A.A.

ORG: none

TITLE: Experimental results on the boiling crisis in forced motion of acetone, benzene, and monoisopropyl diphenyl

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Nekotoryye voprosy fiziki i tekhniki yadernykh reaktorov (Some problems in the physics and engineering of nuclear reactors). Moscow, Atomizdat, 1965, 143-150

TOPIC TAGS: boiling, heat transfer, acetone, benzene, organic cooled nuclear reactor, nucleate boiling, liquid flow, forced flow

ABSTRACT: The authors describe the results of experiments carried out at MIFI to determine the critical densities of heat flux under forced motion of the liquids in question through an annular channel. The purpose of the experiments was to check on theoretical relations derived by one of the authors (Mikhaylov, Prikl. mekh. i tekhn. fizika no. 3, 130, 1963) and to proceed to an investigation of the mixture

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L 39739-66

ACC NR: AT6005822

of monoisopropyl diphenyl and benzene on the basis of the experimental data for benzene and monoisopropyl diphenyl separately, since the critical heat flux for a mixture turns out to be higher for each of the pure liquids. The apparatus used was a closed circulating loop driven by a glandless centrifugal pump with screened drive, designed for pressure up to 100 bar and temperature up to 400C and delivery up to 5 m^3/hr. The liquid flows through an annular channel between a heating element and a glass tube, with inside and outside measuring 6/10 mm in diameter and 22 mm in length. The fuel element was made of stainless steel and was heated with direct current. The transition from nucleate to film boiling (boiling crisis) was observed through a window and was also recorded automatically by measuring the change in the resistance of the fuel element. Two methods were used to reach critical thermal load, one using gradual heating of the fuel element itself, and the other using auxiliary heaters. The tests were made at various pressures and velocities, which were maintained constant during each experiment. The results are presented in the form of tables. The experimental values are about 10 -- 30% higher

Card   2/3

L 39739-66

ACC NR: AT6005822

for benzene and 10 -- 15% higher for acetone than the theoretical values, the discrepancy increasing with the pressure. There are no comparable published data. The experiments with monoisopropyl diphenyl were compared with the data of L. S. Sterman and V. D. Mikhaylov (Teploenergetika no. 2, 82, 1963) and are found to be in good agreement with them. Orig. art. has: 3 tables.

SUB CODE: 20,18/SUBM DATE: 05Jun65/   ORIG REF: 004/   OTH REF: 001

Card 4 5 3/3

L 23200-66   EWT(m)/EWP(j)/ETC(m)-6   RM/WW/JW

ACC NR: AP6005894   (N)   SOURCE CODE: UR/0096/65/000/011/0081/0086

AUTHOR: Nabovchenko, K. V. (Engineer, Dissertator); Kiryutin, A. A. (Engineer); Gribov, B. S.

ORG: Moscow Engineering Physics Institute (Moskovskiy inzhenerno-fizicheskiy institut)

TITLE: Investigation of critical heat fluxes in the forced motion of a monoisopropyldiphenyl-benzene mixture

SOURCE: Teploenergetika, no. 11, 1965, 81-86

TOPIC TAGS: benzene, boiling, heat flux, fluid flow

ABSTRACT: In the experiments, the boiling crisis was observed on the outer surface of a heat-evolving element made in the form of a stainless steel tube with a diameter of 6 mm and a length of 80 mm placed coaxially in a glass tube with a diameter of 10 mm. The flow rate of the liquid through the annular channel was measured with a double diaphragm. For each concentration, a series of experiments was made to determine the critical heat flux at pressures of 2.94, 4.96, 8.82, and 16.37 bars and velocities of 4 and 8 m/sec, for heating from 25 to 125°C. Liquid samples were taken before and after each series. In all, more than

UDC: 662.987

Card 1/2

L 23200-66

ACC NR: AP6005894

1000 measurements were made for weight concentrations of benzene in the mixture equal to 1.5, 2.5, 3.9, 6.5, 10.5, 13.4, 25.0, 38.0, 48.0, 77.0, 89.0, 94.5, 97, and 99.5, for the above listed pressures and velocities, and with heating to the saturation temperature in the interval from 25 to 125°C. The dependence of the critical heat load on the composition of the mixture is illustrated in a series of curves. The article continues to develop mathematically a dimensionless formula for determination of the critical heat flux. This relationship is said to fit the experimental data for the mixture with an accuracy of 30%. Orig. art. has: 18 formulas and 7 figures.

SUB CODE: 07, 20/ SUBM DATE: none/ ORIG REF: 008/ OTH REF: 006

Card 2/2